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[facing p. 84]

Building a Bemba granary.

Plastering the granary walls.

Climbing the granary ladder to get out supplies.

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251 drying—a process which is believed to destroy the vitamin content of vegetables.[1]

Gourds, fruit, &c. Gourds may be kept a few months, but not pumpkins. I once saw a small temporary granary of *mpundu* fruit, but I think this is very rare.

Roots, mushrooms, &c. Sweet potatoes, mushrooms, and caterpillars are preserved by a process of parboiling (*ukufubula*) and subsequent drying in the sun. These foods are used during the hunger months but are declared to be insipid.

Cassava is not stored, but eaten from the beds as wanted.

Meat and fish are not preserved in large quantities, because the supply is very scanty, but in each case the raw flesh is smoke-dried [438] over the open fire. There is some trade in dried fish preserved in this way.

Granaries and Storing Vessels

● 343 361 [437] The approach to a Bemba village is usually up a narrow, overgrown path, winding through untidy beds of pumpkins, beans, or maize. On the outskirts, the first buildings that catch the eye are the village granaries—lath and plaster cylinders with thatched roofs ranged in an irregular circle round the dwelling places. 343 These grain bins are of varying sizes, but measure usually about 10 feet high and 20 feet in circumference, and are raised on uprights about a foot from the ground. Each granary stands as near as possible to its owner's hut, the majority round the outside of the village, but a few scattered here and there inside. To European eyes, they are often untidy and inefficient looking constructions. The supports are sometimes unevenly placed, so that the whole structure seems to tilt to one side. The walls may be whitewashed [531] and painted with red, yellow, and black earth, but more often they are just roughly daubed with clay which cracks in the sun. The grass used for thatching is never cut evenly or bound round the edge, and therefore hangs in wisps of different lengths. But these granaries, though they do not conform to our artistic standards, are nevertheless the measure by which the prosperity of a village is very largely judged. Many huts with few grain bins mean few adult male householders in the community. Cracking walls, or

[1] Cf. the statement that the women of Nigeria dry their leaves in the shade in order to preserve their food value, quoted E. B. Worthington, 'Food and Nutrition of the African Native', *Africa*, vol. ix, 1936, p. 158.

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343 uprights eaten by white ants show that supplies are running low. From a cursory glance from the outside, a native will tell you whether a granary is likely to be full or empty. 'Her food will last her till the cold weather', an observer will remark. 'If she had more than a couple of baskets of millet left, she would get her husband to mend the roof again.' And, in fact, this rough and ready means of estimating the well-being of a village probably does not fall far short of the mark.

The *ubutala* is made by tracing a circle from 16 to 20 feet on the ground, sinking a set of uprights to about 9 inches and binding them together with pliable withes (*ulubango*, plur. *amabango*) inside and out and lashed about 1½ feet apart. A rectangular opening about 2 feet by 1½ feet is cut at the top of the wall to allow the owner to crawl in and out of the granary, and a platform built for a floor raised at about 2 feet from the ground. The wall is then mudded in, and dries in a smooth hard surface in the sun.[1] The roof is built separately on the ground, thatched, and then lifted into position. Subsequently it can be raised up and down at will to allow for the filling of the granary. Two logs (*amapunga*) wedged in position at the bottom of the window level act as a platform on which to stand baskets and other receptacles.

The capacity of such granaries varies. The average circumference of 15 grain bins in one village was 21 feet, the height of the walls to the window level 6 feet, making an average capacity of 661 cubic feet. Chiefs' granaries are bigger, and the four I measured had a capacity more than four times this size.

356 The millet in such granaries is protected from the heavy rain,
343 but not from the damp. White ants attack the uprights, especially those that support the floor, and this gradually causes the granary to tilt over to one side or the other and finally to collapse. A thick layer of cinders soaked in castor oil is sometimes placed beneath

[1] Measurements of a small granary built at Citimukulu's village (June 1934) were as follows: Number of uprights used, 86. Height of uprights, 9 ft. Circumference of granary, 16 ft. Height of floor from ground, 10 in. Height of first transverse binding (*Lubango lua cishingo*), 1 ft. 10 in. from floor. Height of second transverse binding (*Lubango lua cibilibili*) 3 ft. 5 in. Height of third (*Lubango lua mapinga*) 4 ft. 8 in., forming the level of the window. Height of fourth (*Lubango lua kakolubanga*) was 8 in. above the window level, and the topmost withe (*Lubango pa mutwe*) was 1 ft. 6 in. above it. The measurements of the 'window' were 20 in. by 18 in. The whole took two men three days to build.

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the *ubutala* to ward off ants, but more often than not the life of a granary is only two to three years. Nor can rats be kept outside for long.

Filling the granary. All food is dried in the sun before storing. Drying-racks (*icintambi*, plur. *ifintambi*) are built outside each village. These are rough platforms about 6 feet by 2 feet across, raised on uprights 8 feet high, and reached by a notched climbing-pole. On it are piled heads of millet, sorghum, or other crops to be dried before storing. The millet harvest is sometimes put temporarily in a rough field granary (*nkoloso*), usually made of plaited reeds, before it is carried into the village. As the gardens are often eight or more miles from the village, the convenience of this arrangement is obvious. Later the millet is carried into the village by the women in the big round baskets (*umuseke*, plur. *imiseke*) which contain 40 to 50 lb. The roof of the granary is lifted off and each basket is emptied in one at a time, with the appropriate magic of food-preservation (cf. pp. 206–8). When the whole supply of grain has been emptied into the bin, it must be trodden down hard (*ukushindaila*), a process which the natives consider very important for the preservation of their crop. Next, the roof must be raised into position, and the entrance barred with transverse logs.

To take out the grain, the owner leans a primitive ladder of notched logs (*umutanto*, plur. *imitanto*) against the granary, clambers up, removes the barricade across the entrance, squeezes through the narrow aperture, sometimes raising the roof as she does so, and swings herself down into the dark interior of the bin by the platform bars.

Precious seeds or dried legumes are often kept in a clay water-pot (*umutondo*) or gourd, the mouth of the vessel being plastered over with a layer of clay (*ukumashila*). This is apparently an efficient method of storage, and protects all crops except Kaffir corn from rats and insect pests. Another method of storing legumes or ground-nuts is to make one of the grass carriers known as *umubamba* (plur. *imibamba*). It is common to see natives going about the country carrying round egg-shaped bundles of grass tied with a net-work of bark strands, and containing a hundred pounds or so of seeds. The European is at a loss to understand how a ball about 2 feet in diameter can be made of unplaited grass, and how the beans are inserted in the middle. In fact, the method is ingenious. A round or oblong hole about 18 inches across and a

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of food stored in irregular-shaped vessels like gourds of different sizes. It is not impossible that any educational authority which gave time to the invention of separate storing vessels, roughly speaking of the same size, might gradually improve the process of seed-selection in this area, and also the power of the housewife to calculate the amount of food she has stored.

The problem of estimating the amount of millet available at any period of the year is another difficulty. From the outside the Bemba grain bin is simply an opaque lath and plaster cylinder, through which the height of the grain cannot be measured. Crawling through the entrance at the top, the housewife descends on to the flat surface of the millet. Its level can be roughly measured by the circular withes (*amabango*) described on p. 85, and the woman will say of her millet at the beginning of the season that it is 'up to the second or third withe'. But these bands are very irregularly placed, varying from 15 inches to 2 feet apart, and the builders seem to make no effort to measure the distances more equally. Very few natives seem to count the number of baskets of millet they put into the granary at harvest time, although the men, at any rate, are prepared to have a shot at the figure when asked. It did not usually tally with the rough estimate I made by measuring the circumference and height of the pile of grain. One man guessed 10 baskets, i.e. 500 lbs., whereas the weighed contents proved to be 350 lbs.

The problem, then, is whether the householder knows how much grain he has in his granary, say as compared with what he had last year, and whether his wife is able to calculate how long her food will last and to apportion it accordingly. The answer can only be reached by observing her methods of taking grain from the bin. The woman describes the process of taking out millet from the granary (*ukubansa*) as a very difficult task. 'Only old women know how to look after the food' (*ukutentembe filyo*—to care for or to plan out supplies).[1] To take out the grain, the housewife does not fill her basket from the top, as we might have expected, but scoops out the millet round each side until a column of grain is left standing in the middle of the granary. This may be a half cone leaning against one wall (*cinsenene*), or the pile formed by cutting off segments of the circle each side (*yombe*), or

[1] Cf. The slow process of education of the girl described in Chap. VIII.